

IN THE CLAIMS

Following are the current claims. For the claims that have NOT been amended in this response, any differences in the claims below and the current state of the claims is unintentional and in the nature of a typographical error:

1. (Original) For use in a fixed-size packet switch, a switch fabric comprising:

N input buffers capable of receiving incoming fixed-size data packets at a first data rate and outputting said fixed-size data packets at a second data rate equal to at least twice said first data rate;

N output buffers capable of receiving fixed-size data packets at said second data rate and outputting said fixed-size data packets at said first data rate; and

a bufferless, non-blocking interconnecting network capable of receiving from said N input buffers said fixed-size data packets at said second data rate and transferring said fixed-size data packets to said N output buffers at said second data rate.

2. (Original) The switch fabric as set forth in Claim 1 wherein said bufferless, non-blocking interconnecting network comprises a bufferless crossbar.

3. (Original) The switch fabric as set forth in Claim 1 wherein each of said N input buffers is at least twice the size of each of said N output buffers.

4. (Previously Presented) A method of operating a switch fabric in a fixed-size packet switch, the method comprising the steps of:

storing incoming fixed-size data packets in N input buffers at a first data rate;

outputting the fixed-size data packets from the N input buffers at a second data rate equal to at least twice the first data rate;

transferring the fixed-size data packets output by the N input buffers at the second data rate through a bufferless, non-blocking interconnecting network to N output buffers;

storing the fixed-size data packets transferred through the bufferless, non-blocking interconnecting network in the N output buffers at the second data rate; and

outputting the fixed-size data packets from the N output buffers at the first data rate.

5. (Original) The method as set forth in Claim 4 wherein the bufferless, non-blocking interconnecting network comprises a bufferless crossbar.

6. (Original) The method as set forth in Claim 5 wherein each of the N input buffers is at least twice the size of each of the N output buffers.

7. (Original) A fixed-size data packet switch comprising:

N input ports capable of receiving incoming fixed-size data packets at a first data rate and outputting said fixed-size data packets at said first data rate;

N output ports capable of receiving fixed-size data packets at said first data rate and outputting said fixed-size data packets at said first data rate; and

a switch fabric interconnecting said N input ports and said N output ports comprising:

N input buffers capable of receiving incoming fixed-size data packets at said first data rate and outputting said fixed-size data packets at a second data rate equal to at least twice said first data rate;

N output buffers capable of receiving fixed-size data packets at said second data rate and outputting said fixed-size data packets at said first data rate; and

a bufferless, non-blocking interconnecting network capable of receiving from said N input buffers said fixed-size data packets at said second data rate and transferring said fixed-size data packets to said N output buffers at said second data rate.

8. (Original) The fixed-size data packet switch as set forth in Claim 7 wherein said bufferless, non-blocking interconnecting network comprises a bufferless crossbar.

9. (Original) The fixed-size data packet switch as set forth in Claim 7 wherein each of said N input buffers is at least twice the size of each of said N output buffers.

10. (Original) The fixed-size data packet switch as set forth in Claim 7 further comprising a scheduling controller capable of scheduling transfer of said fixed-size data packets from said N input ports to said switch fabric.

11. (Original) The fixed-size data packet switch as set forth in Claim 10 wherein said scheduling controller is capable of scheduling transfer of said fixed-size data packets from said N output ports to an external device.

12. (Original) The fixed-size data packet switch as set forth in Claim 10 wherein said scheduling controller is capable of scheduling transfer of said fixed-size data packets from said N input buffers to said bufferless, non-blocking interconnecting network.

13. (Original) The fixed-size data packet switch as set forth in Claim 12 wherein said scheduling controller is capable of scheduling transfer of said fixed-size data packets from said N output buffers to said N output ports.

14. (Original) A communication network capable of transferring data in fixed-size packets between a plurality of end-user devices, said communication network comprising:  
a plurality of fixed-size data packet switches, at least one of said fixed-size data packet switches comprising:

N input ports capable of receiving incoming fixed-size data packets at a first data rate and outputting said fixed-size data packets at said first data rate;

N output ports capable of receiving fixed-size data packets at said first data rate and outputting said fixed-size data packets at said first data rate; and

a switch fabric interconnecting said N input ports and said N output ports comprising:

N input buffers capable of receiving incoming fixed-size data packets at said first data rate and outputting said fixed-size data packets at a second data rate equal to at least twice said first data rate;

N output buffers capable of receiving fixed-size data packets at said second data rate and outputting said fixed-size data packets at said first data rate; and

a bufferless, non-blocking interconnecting network capable of receiving from said N input buffers said fixed-size data packets at said second data rate and transferring said fixed-size data packets to said N output buffers at said second data rate.

15. (Original) The communication network as set forth in Claim 14 wherein said bufferless, non-blocking interconnecting network comprises a bufferless crossbar.

16. (Original) The communication network as set forth in Claim 14 wherein each of said N input buffers is at least twice the size of each of said N output buffers.

17. (Original) The communication network as set forth in Claim 14 further comprising a scheduling controller capable of scheduling transfer of said fixed-size data packets from said N input ports to said switch fabric.

18. (Original) The communication network as set forth in Claim 17 wherein said scheduling controller is capable of scheduling transfer of said fixed-size data packets from said N output ports to an external device.

19. (Original) The communication network as set forth in Claim 17 wherein said scheduling controller is capable of scheduling transfer of said fixed-size data packets from said N input buffers to said bufferless, non-blocking interconnecting network.

20. (Original) The communication network as set forth in Claim 19 wherein said scheduling controller is capable of scheduling transfer of said fixed-size data packets from said N output buffers to said N output ports.